FIG 1

segment 16-bit thermometer code		binary output code		decimal code	segment number of the segmented thermometer code
segment number p=3 p=2 p=1 p=0					p
MSB (MSS) (LSS) LSB	MSB	LSB			
0000 0000 0000 0001	00	00	0	
0000 0000 0000 0011	00	01	1	00 (0)
0000 0000 0000 0111	00	10	2	
0000 0000 0000 1111	00	11	3	
0000 0000 0001 1111	01	00	4	
0000 0000 0011 1111	01	01	5	01 (1)
0000 0000 0111 1111	01	10	6	
0000 0000 1111 1111	01	11	7	
0000 0001 1111 1111	10	00	8	
0000 0011 1111 1111	10	01	9	10 (2)
0000 0111 1111 1111	10	10	10	
0000 1111 1111 1111	10	11	11	
0001 1111 1111 1111	11	00	12	
0011 1111 1111 1111	11	01	13	11 (3)
0111 1111 1111 1111	11	10	14	
1111 1111 1111 1111	11	11	15	

FIG 2

in(15)
in(14)
in(13)
in(12)
2

in(11)
in(10)
in(9)
in(8)
3

in(7)
in(6)
in(5)
in(4)
4

5

A
B
C

CO
S

1

13
out(3)

12
out(2)

in(15)
in(11)
in(7)
in(3)
13 S1 S0
12
11
10
6

in(14)
in(10)
in(6)
in(2)
13 S1 S0
12
11
10
7

in(13)
in(9)
in(5)
in(1)
13 S1 S0
12
11
10
8

9

A
B
C

CO
S
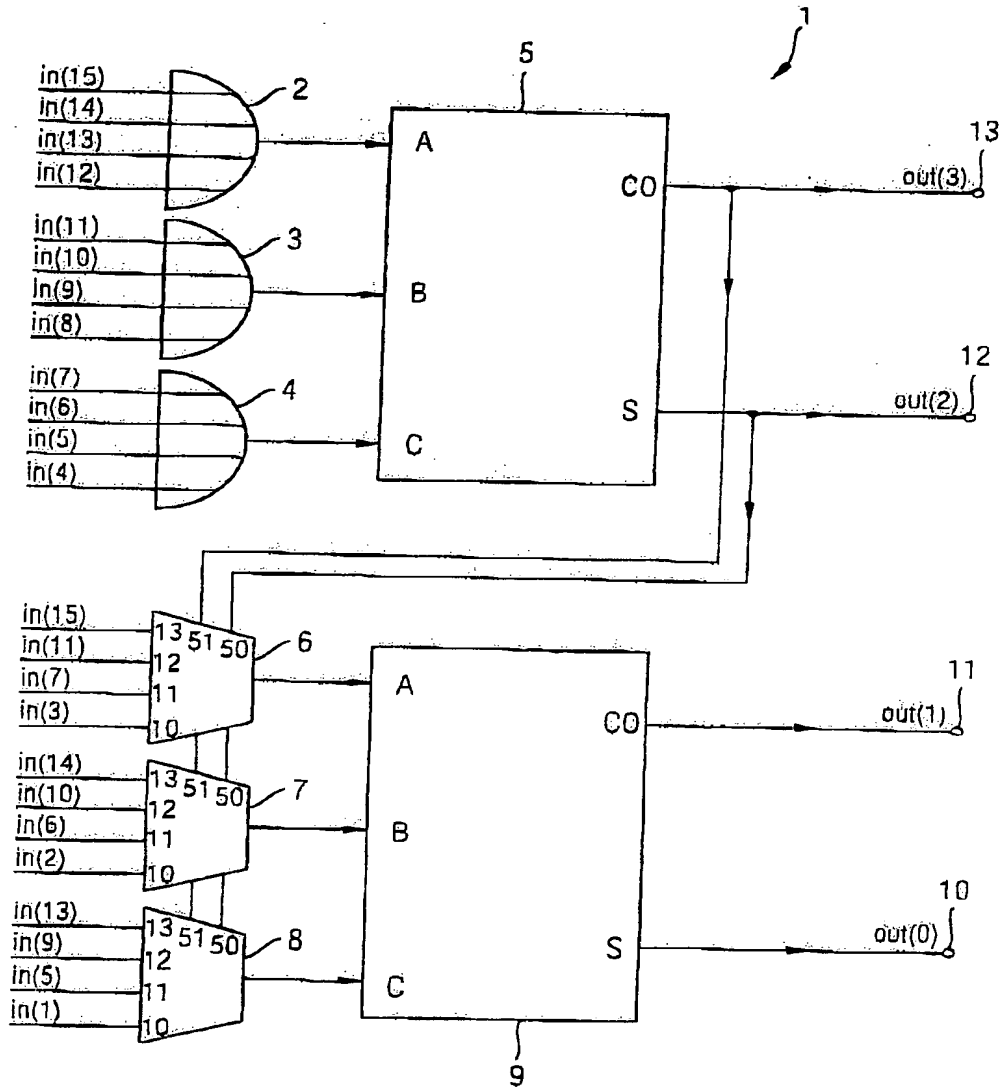
11
out(1)

10
out(0)

FIG 3

segmented 16-bit thermometer code				determined value of the decimal code		correct value of the decimal code	segment number of the segmented thermometer code
segment number							
p=3	p=2	p=1	p=0				p
MSB	(MSS)	(LSS)	LSB	MSB	LSB		
0000	0000	0000	0001	0		0	
0000	0000	0000	0010	1		1	
0000	0000	0000	0101	1		2	00 (0)
0000	0000	0000	1011	2		3	
0000	0000	0001	0111	4		4	
0000	0000	0010	1111	5		5	
0000	0000	0101	1111	5		6	01 (1)
0000	0000	1011	1111	6		7	
0000	0001	0111	1111	8		8	
0000	0010	1111	1111	9		9	
0000	0101	1111	1111	9		10	10 (2)
0000	1011	1111	1111	10		11	
0001	0111	1111	1111	12		12	
0010	1111	1111	1111	13		13	
0101	1111	1111	1111	13		14	11 (3)
1011	1111	1111	1111	14		15	

FIG 4

out(3) — 13
out(2) — 12
out(1) — 11
out(0) — 10

1

in(15)
in(14)
in(13)
...
...
in(2)
in(1)
In(0)

23

D15
D14
D13
...
...
D2
D1
D0

22

24

21
V

20